MACROECONOMIC EFFECTS OF CATALAN FISCAL DEFICIT WITH THE SPANISH STATE (2002-2010)

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Abstract

In the period 1996-2000 Catalan convergence with the EU most dynamic regions has blocked, attending to Eurostat Regional data. In this paper, with the aim to analyze how can Catalonia converge with the EU in the next years, it has been proceeded to estimate some simulations of Catalan GDP growth in the 2010 horizon, considering different reduction scenarios of Catalan fiscal deficit with the Spanish State (between 7-9% of Catalan yearly GDP). Looking at the obtained results, current Catalan stagnation will remain in the next years, if Catalan fiscal deficit mentioned above remains. Thus, Catalonia only will converge with most dynamic EU regions if there's a significant reduction, in the following years, of Catalan fiscal deficit with the Spanish State.

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1.- Introduction

In the last years Catalonia has stopped being the most dynamic Autonomous Community (AC) in the Spanish State. Catalan economy, which was traditionally considered the "factory of Spain" in the 19th and 20th centuries, observes how at the beginning of the new century tourism and construction replace industry and services in Catalan productive structure. Thus, Navarra was at year 2000 the first Spanish AC, considering the percentage of employment occupied in highest value added manufacturing sectors. At the same year, Madrid was the first Spanish AC, attending to the percentage of employment occupied in intensive knowledge services (Eurostat, 2002).

This fact can be attributed mainly, among other reasons, to globalisation impact on the Catalan economy (Vives, 2002) and to actual politic structure of Spanish State: the limited autonomy of Catalan government can't hold up the continual fiscal deficit with the Spanish State and implies the non-existence of a real regulating Catalan power over economic activity.

Considering the first reason mentioned before, it is important to notice that EU enlargement process implies that Catalan industry is beginning to lose some of most labor intensive manufacturing sectors. It has been estimated that the half of Catalan manufacturing sectors will be seriously concerned by the removal of multinational investment and production to EU candidate countries and other emerging countries (Gual, 2002). On the other hand, the non-existence of a real regulating Catalan autonomous power implies that regulated activity sectors move from Catalonia to Madrid. To be near of the real and effective policy maker, for instance, Catalan pharmaceutical industry is locating in Madrid, city which has been concentrating in the last yeas financial services and multinationals central offices.

However, EU enlargement is not necessarily bad for Catalan economy. If it is true that from now on some multinational investment, which since 1986 have been choosing Catalonia, will locate in the emerging countries, Catalan integration in the EU has been extremely positive for Catalan industry. Thus, as supplier of great industrial multinationals, in the last years have appeared in Catalonia thousands of little and medium size Catalan manufacturing enterprises. And even some of them, having increased their dimension, have become Catalan industrial multinational which invest abroad (Fontrodona and Hernàndez, 2002). In this way, 1999 was the first year in which Catalan industrial investment abroad was bigger than foreign industrial investment in Catalonia (Molina, 2002). Thus, European economic and

monetary integration process would have specially benefited Catalan economy: from 1993 the convergence in interest rate (which remained at 15% during the period 1988-1993) and the peseta's depreciation (which was artificially appreciated in that period) would principally benefited industrial and exporter Spanish regions as Catalonia. This benign monetary policy executed in Spain since 1994 would have had a significant unequal territorial effect (Tremosa and Pons, 2001), at the same time that would have been the main reason of spectacular growth of Catalan exports between 1994 and 1998[1] (Costa and Tremosa, 2003).

On the other hand, and in spite of Catalan autonomy, the centralism of Spanish State affects negatively Catalan economy. Fiscal policy is still concentrated in European States, and Catalonia is a "richer region" of a "poor country": with a GDP per capita of 99% of EU GDP per capita average in 2000, similar regions in France are net receiver regions of EU funds and French State funds, while Catalonia is a net taxpayer in the EU and in the Spanish State. Thus, there are inter-territorial redistribution policies of the Spanish State that affects specially Catalan economy, which has been continuously its main AC contributor. In this way, there's a significant academic consensus in Spain, considering that fiscal imbalance of Catalonia with the Spanish State has supposed a systematic outlay of wealth estimated between 7-9% of Catalan GDP in the last years (Castells *et al.*, 2001). Spanish public investment in Catalonia has been, in the last fifty years, systematically lower than the Spanish average (Castells *et al.*, 2002).

In this paper, with the aim to analyse how can Catalonia converge with the most dynamic EU regions in the next years, it has been proceeded to estimate some simulations of Catalan GDP growth in the 2010 horizon, considering different scenarios of reduction of Catalan fiscal deficit with the Spanish State. This paper is organized as follows: section two presents the evolution of Catalan economy in the last years, in Spanish and European context, presenting the main estimations of Catalan fiscal deficit with the Spanish State. Section three describes the methodology that has been used, related to economic growth simulations. Section four presents the main results obtained and, finally, section five concludes.

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[1] *Catalan industry is a clear example of the relationship between openness and productive specialization. Today in Catalan manufacturing play a leading part only four sectors: chemical, automobile, machinery and food, which represented in 2001 a 60% of total Catalan industrial production (while in 1990 it was only a 32%). In the same period, Catalan ratio exports/GDP has grown from 17.5% to 43% between 1990 and 2001.*

2.- Catalan Economy in Spain and in the EU

2.1.- Catalonia in Spanish context

Even though from the beginning of 20th century exist academic research about Catalan fiscal with the Spanish State, it is not until the seventies that this deficit becomes important. Because of modernization and growing intervention of the Spanish State in economy (in 1982 public expenditure/GDP was only 16%, in 1993 was about 48% and in 2001 it was 43%), Catalan fiscal deficit has become really important, as it is shown in Tables 1.A and 1.B. Thus, in spite of Spanish decentralization process, until 2001 Central Government in Spain collected the 90% of all Spanish taxes, at the same time that public expenditure was relatively decentralized: of total Spanish public expenditure, in 1998 the 66% belong to Central Government, 21% to regional governments, AC, and 13% to local governments (Ministerio de Economía y Hacienda, 1999). In this way, 2001 Spanish financial AC reform has increased the share in the main Spanish taxes to 20%, eliminating slow and inefficient transfers from Central Government to regional and local governments. But with this reform it can not be said that regional and local governments will dispose of a significant higher volume of resources (they have only got financial autonomy).

Thus, in Catalonia in 1998 the 84% of total taxes were collected by the Spanish Central Government (30.240 millions €), the 9% by the Catalan government (3.240 millions €) and the 7% by local governments (2.520 millions €). Catalan tributary pressure (total taxes/GDP) in 1998 reached 38%, being the EU average in that year a 43%. In the other hand, in Catalonia public expenditure was executed by the Spanish Central Government (48%, 13.200 millions €), by the Catalan government (34%, 9.350 millions €) and by local governments (18%, 4.950 millions €). Catalan fiscal pressure (total public expenditure/GDP) in 1998 reached 28%, being the EU average in that year a 48% (Ros, Tremosa and Pons, 2001). We can conclude that Catalonia pays taxes as an European country but receives public expenditure as a South-American country and we can also say that Catalonia pays taxes as a social democratic country but receives public expenditure as a liberal country.

Tables 1.A and 1.B present the amount of Catalan fiscal deficit (as the difference between all taxes paid by Catalonia and all public expenditure and investment received in Catalonia) with the Spanish State and the share that this deficit has represented every year.

Table 1.A
Catalan Fiscal Deficit with the Spanish State
(Fiscal Deficit in current million euros)

Year	% GDP	DEFICIT
1986	7.5	2,722.6
1987	8.0	3,269.5
1988	7.3	3,359.6
1989	8.9	4,687.9
1990	8.8	5,180.7
1991	8.9	5,745.7
1992	7.5	5,198.8
1993	4.5	3,185.4
1994	6.0	4,627.8
1995	5.6	4,693.9
1996	6.3	5,607.4
1997	8.1	7,723.0
1998	7.8	7,969.4

Sources: 1986-1994, Colldeforns and Martínez (1999); 1995-1998, López and Martínez (2000).

Table 1.B
Catalan Fiscal Deficit with the Spanish State
(Fiscal Deficit in current million euros)

Year	% GDP	DEFICIT
1995	0.9	700.6
1996	2.2	1,871.2
1997	4.9	4,390.0
1998	5.4	5,194.0
1999	7.7	8,032.9
2000	8.8	10,035.4
2001	8.9	10,746.4

Source: Alcaide and Alcaide (2002).
Note: Catalan GDP data is not exactly the same that provides IDESCAT.

As a result of this fiscal deficit with the Spanish State, Catalonia presents in the Spanish context a slow but persistent drop trend: if Spanish GDP per capita average is equal to 100, in 2000 Catalan GDP per capita was 121.9 (FUNCAS, 2001), when it was 122.8 in 1998 and

124.2 in 1985 (and it was 128.5 in 1975 and 160.7 in 1955). Thus, in 2001 Catalan GDP reached its historical minimum, when represented only the 18.6% of Spanish GDP. This percentage coincides with the emergence of Madrid economy in the Spanish context, with a weight of 17.4% of Spanish GDP in 2001, when in 1995 it was only a 16% (and Catalan GDP weight in Spanish GDP in 1995 was a 19.5%)[2]. In this sense, Catalan fiscal deficit with the Spanish State supposes a growing opportunity cost for Catalan economy, more especially as it is not growing as it could (and as are growing the most dynamic EU regions). Thus, Catalan GDP would have been in 2000 a 31.3% bigger than it was (152,867 millions € instead of 116,413 millions €) if all the amount of Catalan fiscal deficit with the Spanish State would have been invested in public capital in Catalonia (Ros, Tremosa and Pons, 2003).

However, this continued flow of fiscal deficit not only limits Catalan possibility of growing. It also has an special incidence in the personal income of Catalans. In this sense, the analysis of this variable provided by the Spanish Foundation FUNCAS (2001) for Spanish AC shows which is the impact of the successive flows of Catalan fiscal deficit with the Spanish State. Adjusted in purchasing power parity, Catalan personal income drops from second position in 1985 (value 117.5, if Spanish average is 100) to seventh position in 2000 (104.3). In this year Catalonia is surpassed by Navarra (121.8), Balearic Islands (121.5), Madrid (116.2), La Rioja (115.4), Aragon (113.2) and Castile-Leon (109.0).

2.2.- Catalonia in the European context

In the European Union context the last available report of economic convergence at regional level is provided by Eurostat and is referred to year 2000 (Eurostat, 2003). However, Eurostat awards to Spanish GDP per capita the value 82, if EU GDP per capita average is 100. It is important to notice that Spanish GDP per capita presents a poor convergence with the EU GDP per capita average, considering that in 1991 Spanish GDP per capita was a 78% of EU average. We consider that the cause of this weak result is the redistributive public policy of the Spanish State (Sala-i-Martín, 1997), which has systematically decided to invest attending to solidarity criteria (investing principally in the AC in which the GDP per capita is lower) instead of investing attending economic efficiency criteria (investing in the AC in which ratio public capital/ private capital is lower). This second case is the situation

[2] *Data available at www.ine.es, Spanish Statistic Institute.*

of Catalonia, in which every monetary unit invested could generate a greater multiplicator effect on GDP (the greatest in Spain).

Table 2 presents the evolution of GDP per capita indexes of most dynamics Spanish AC, in purchasing power standard, between 1996 and 2000, in which it is confirmed the convergent evolution of Madrid, Basque Country and Navarra, while Catalonia blocks. It is important to notice that the Basque Country and Navarra enjoy a self-sufficient financial agreement with the Spanish State ("concierto económico"), by which all taxes are collected by both autonomous governments; in fact, these two AC are financially independents, and they only satisfy to Central government the amounts equivalent to the services that it provides. In the case of Madrid, this AC represents only the 1% of Spanish surface, but in 1998 already concentrates 10% of Spanish public capital stock (FBBVA, 2002): all Spanish transport infrastructure, as the high velocity trains for instance, are radially designed from Madrid and only Madrid airport is the unique Spanish inter-continental airport (when Milan, Frankfurt, Hamburg or Munich offers several inter-continental flights).

Table 2.
Regional GDP per capita in the EU and candidate countries
In PPS (Purchasing Power Standard)
EU-15 average = 100

	1996	**2000**
Madrid	101	110
Navarra	98	105
Basque Country	92	101
Catalonia	99	99

Source: Eurostat (1999, 2003).

Comparing Catalan fiscal imbalance with the Spanish State in the European context, it is important to notice that only Italian regions of Lombardy and Emiglia Romagna presents similar percentages of regional GDP, in contributing to its Central Government (Castells, 1998). However, these two Italian regions had in 2000 a bigger GDP per capita than Catalonia, 136 and 130, respectively (Eurostat, 2003). Thus, Catalan fiscal deficit of 1997 (8.1% of 1997 Catalan GDP) was considerably bigger than other contributors regions as Bayern (3.5%), Baden-Württemberg (4.,4%), Île-de-France (4.4%), South East (6.7%) and Stockholm (7.6%). International comparison emphasizes and accentuates Catalan fiscal deficit with the Spanish State.

Thereby, a Bank of Spain working paper (Desmet and Ortuño, 2001) concludes that less developed Italian regions don't have incentives to improve and grow, while public transfers from the Italian Government still continue. The authors call this behavior as "rational underdevelopment" and affirm that while the subventions arrive less developed Italian regions won't have incentives to converge.

3.- Methodology and statistic information

3.1.- Previous considerations

In economic literature there have been described different techniques to quantify the impact public expenditure programs. Thus, Nordhaus (2002) quantifies economic cost for the United States of Irak war. Abadie and Gardeazábal (2001) study the terrorism impact on Basque Country economy and Sosvilla and Herce (1998 and 1999) study the EU cohesion funds on Spanish economy.

In all this research it has been used an autoregressive vectors model because its flexibility, because it is available enough information volume to build this kind of models, and because this methodology has been usually used in different countries to elaborate similar research. Thus, it can be mentioned the works of Roca and Pereira (1998) for the Spanish economy, Blanchard and Perotti (1999) for the United States and, finally, Mittnik and Neumann (2001) for Canada, France, Great Britain, Japan, Netherlands and Germany.

At the end of eighties appeared in economic literature some works that analyzed the significance of public infrastructures on the productivity of countries and regions. The majority of these works have calculated the elasticity of product to public capital, by through a production function (which normally was a Cobb-Douglas). In spite of this, the works that obtain this elasticity mentioned above have received some methodological critical. One of the main limitations is that there can be observed feedback effects between the considered variables, which can be important. It means that it can exist a simultaneous relationship between production growth and public capital growth.

To overcome this limitation in economic literature it is proposed to use techniques of multiequational time series (VAR models), which incorporate GDP, employment, private capital and public capital. These models allow catching relationships between these variables in a period

of time, by through impulse-response functions. Dynamic feedback effects are essential to catch the relationship between public capital and the rest of the variables included in the model, more especially because it allows to consider how public capital affects GDP, employment and private capital. However, it is also possible to catch how these variables affect public capital growth, in a process which retro feeds it.

3.2.- Statistic information

In this paper it has been used the following variables: GDP at constant prices, employment, private capital and public capital. Statistic information refers to Catalan economy for the period 1965-1999. Information about GDP and employment come from *Renta Nacional de España y su distribución provincial* published by *Fundación BBVA*. Moreover, information about private and public capital come from *El stock de capital en España y sus comunidades autónomas*, also published by *Fundación BBVA*. In this last case, values of private and public capital of Catalan economy have been extrapolated for 1999 starting on the values of these variables for Spain.

This is a time serie not excessively long, and also information about production and employment are provided in biannual format. Even so, applied works metioned above referred to Spanish economy also present this limitation and use similar time series. Finally, it is important to notice that, being estimated the VAR model, it has been calculated some economic growth simulations of Catalan economy, having used IDESCAT (Catalan Statistic Institute) time series of Catalan GDP at constant prices and employment[3].

3.3.- VAR model specification

This econometric methodology demands stationary time series. To study considered variables stationariety it has been used unit roots tests, as it is common in literature. The results obtained confirm that original time series, expressed in logarithms, are stationaries in first differences. Thus, econometric analysis has been done considering first differences of the four variables mentioned above. Moreover, using Johansen test it is not possible to reject that the four time series used present a co integration relation. Even so, it is important to consider

[3] *This statistic informatcion of Catalan economy comes from IDESCAT website: http://www.idescat.es.*

with care the results of both test (stationarity and co integration), because the sample is not so big.

Thus, the VAR model desirable to estimate is expressed as follows[4]:

$$X_t = \mu + A_1 \cdot X_{t-1} + A_2 \cdot X_{t-2} + \ldots + A_p \cdot X_{t-p} + u_t$$

in which vector X_t includes the four variables considered in this analysis, all of them expressed in logarithms and in first differences: gross domestic product (GDP), employment (OCU), private capital (KPRI) and public capital (KPUB). Moreover, A_i (i=1,2,…p) are the parameters matrix that it is desirable to estimate, μ is a deterministic components vector, p is the model VAR order and, finally, u_t is the residual vector. Thus, considering the four variables in logarithms and in first differences, we are making use of growth rate of the time series mentioned above.

In the VAR model specification it is precise to select the deterministic components (constant and trend), and also the order of the model. The use of Akaike's AIC and Schwartz's SBIC criteria suggest that the VAR model order is p=1 and that, at the same time, it is necessary to incorporate in the model a constant and a trend, as its deterministic components.

The analysis of the effects of a public capital growth, as a result of a reduction of Catalan fiscal deficit with the Spanish State, is founded in the impulse-response functions associated to the VAR model. These functions pick up the effect, on all the variables included in the model, of one variable variation (in or case, public capital). Moreover, these functions also allow to obtain the long term effect of a change in public capital in a determined moment. Definitively, by through impulse-response functions, it is determined how Catalan GDP and employment will variate, if infrastructures investment increase and, simultaneously, how will be distributed this variation in the following years.

Table 3 presents impulse-response functions for the four considered variables and for the five firsts years. It is important to notice that, because of the own VAR model definition, when it is imposed a change of an standard deviation in public capital in the year

[4] *Philisophy and statistics foundations of this kind of models can ben consulted in Greene (1998).*

t=1, the effects on the rest of the considered variables (GDP, employment and private capital) begin in t=2, and these effects extend until t=5[5].

Table 3.
Impulse response functions

Year	GDP	EMP	KPRI	KPUB
1	----	----	----	0.0283
2	0.0091	0.0051	0.0106	0.0177
3	0.0034	0.0022	0.0110	0.0121
4	0.0017	0.0007	0.0079	0.0072
5	0.0005	0.0002	0.0051	0.0040

Note: Changes when it is produced a variation of standard deviation in public capital.

The results obtained in Table 3 allow us to know in which measure will change GDP, employment and private capital (in spite of this, the analysis will focus only on the two first variables), when it is produced an increase of 1.0% in public capital in the Catalan economy. Thus, an increase of 1.0% in public capital produces a cumulated variation in the following five years of 0.52% in the case of GDP and of 0.29% in the case of employment. In Table 4 it is shown which is the distribution, in five years, of this increase in percentage of GDP and employment. In this way, it is shown that the effects over GDP and employment of a 1.0% in public capital increase is concentrated mainly in the second year (61.7% of total effect) and in the third (23.6% of total effect).

Table 4
Temporary distribution of a GDP and employment increase

Year	GDP	EMP
1	----	----
2	61.7%	62.7%
3	23.6%	27.3%
4	11.7%	8.1%
5	3.0%	1.9%
TOTAL	100.0%	100.0%

[5] It has been chosed t=5 as the late year of the impact, because of in the following years the origined effects by this initial shock are practically null.

Moreover, there's an alternative way to interpret these results. It can be considered which is the effect on Catalan GDP of an euro increase in public capital investment. Thus, an increase of one euro in public capital implicates, at the end of the following five years, a GDP increase of 1.43 €. The distribution of this result shows that in the second year the GDP increase is 0.84 €, in the third year the GDP increase is 0.34 €, in the fourth year the GDP increase is 0.17 € and, finally, in the fifth year the GDP increase is 0.04 €. However, it is possible to use the same way to interpret these results can be used for employment: to create one job per year it is sufficient with a public investment of 38.000 €.

4.- Results

Three scenarios of future Catalan economy evolution have been defined, based on projections of IDESCAT (Costa and Muñoz, 2001) and Spanish *Ministerio de Economía*. In table 5 are presented the annual growth, for every year of the period 2002-2010, for the different considered variables and for the three defined scenarios.

Table 5.
Catalan Economy Scenarios, 2002-2010
Annual growth rate

	INTERMEDIATE	PESSIMISTIC	OPTIMISTIC
GDP	3.2%	1.5%	4.2%
GDP Deflator	3.0%	2.0%	3.6%
Employment	1.5%	0.5%	2.4%
Nominal Productivity	4.7%	3.0%	5.4%
Real Productivity	1.7%	1.0%	1.8%

For every one of these three scenarios it has been quantified which would be in growth rate, for this period of nine years, nominal GDP and real GDP, GDP deflator and productivity for Catalan economy. In table 6 it is shown, for every scenario, which would be Catalan

nominal and nominal GDP per capita in 2010. At the same time, these amounts are compared with those of 2001[6].

Table 6.
Catalan Nominal GDP

	Nominal GDP (millions of euros)	Nominal GDP per capita (euros) [7]
Year 2001	125,444	19,713
Year 2010		
Intermediate Scenario	216,628	32,728
Pessimistic Scenario	170,867	25,814
Optimistic Scenario	248,949	37,611

Probably, Catalan economy would reach a weak approach to most dynamic, developed European regions (in terms of GDP per capita, expressed in purchasing power standard), in the case of the optimistic scenario. A backward movement in the case of the pessimistic scenario and a maintenance, as it has observed in the period 1996-2000, in the case of the intermediate scenario (according to EUROSTAT, in 2000 Catalan GDP per capita in PPS was a 99% of EU-15 GDP per capita average). In spite of this, if there were a significant reduction of Catalan fiscal deficit with Spanish State in the period 2002-2010, estimated VAR models in the preceding section show that at the end of 2010, Catalan economy situation would be more favorable. This better position is observed in terms of GDP (table 7) and also in terms of employment (table 8) and productivity.

[6] *Contact the authors, if there is interest to deepen and comment these results, referred to the different analyzed years and also to the different considered scenarios.*

[7] *To obtain Catalan GDP per capita it has been supposed that Catalan population in 2010 will be of 6,619,035 people. This population has been obtained from the trend estimated for IDESCAT (Institut d'Estadística de Catalunya), and its population projections can be consulted in its web site (www.idescat.es). In 2001 information about Catalan population has been obtained from Spanish Statistic Institute (INE, www.ine.es), which confers to Catalonia in 2001 a population of 6,343,110 people.*

Table 7.
Nominal GDP year 2010 and fiscal deficit reduction suppositions

	Without reduction of fiscal deficit	Yearly reduction 1%/GDP	Yearly reduction 3%/GDP	Yearly reduction 5%/GDP
Intermediate Scenario	216,628	237,925	286,184	342,889
Pessimistic Scenario	170,867	189,546	232,116	282,478
Optimistic Scenario	248,949	271,993	324,038	384,947

Note: Amounts are expressed in millions of euros. In year 2001 Catalan nominal GDP was estimated in 125,.044 millions euros.

Table 8.
Employment year 2010 and fiscal deficit reduction suppositions

	Without reduction of fiscal deficit	Yearly reduction 1%/GDP	Yearly reduction 3%/GDP	Yearly reduction 5%/GDP
Intermediate Scenario	2,827.4	2,999.4	3,372.6	3,788.1
Pessimistic Scenario	2,586.3	2,748.4	3,101.4	3,496.1
Optimistic Scenario	3,061.2	3,239.3	3,625.1	4,053.4

Note: Amounts are expressed in thousands. In year 2001 Catalan employment was of 2,472.8 thousands.

Thus, for instance, in the case of intermediate scenario, if in every year of the period 2002-2010 Catalan fiscal deficit with Spanish State would reduce in a 1% of Catalan GDP, in 2010 Catalan GDP per capita would be bigger in a 9.8%. If this reduction would be equivalent to 3% of Catalan GDP, in 2010 Catalan GDP per capita would be bigger in a 32.1%. And finally, if this reduction would be equivalent to 5% of Catalan GDP, in 2010 Catalan GDP per capita would be bigger in a 58.3%.

Definitively, considering that without any reduction of Catalan fiscal deficit with the Spanish State and also that Catalan economy

would grow at the intermediate scenario (and if this economic grow doesn't defer of the EU-15 GDP growth average), Catalonia won't converge with most dynamic EU regions in the next ten years. Catalonia only can reach an intense convergence if there's a significant reduction of Catalan fiscal deficit with the Spanish State in the period 2002-2010, and if recovered flows are invested in public capital in Catalonia.

Moreover, maintaining the suppositions mentioned before, if Catalan fiscal deficit reduction were equivalent to 1% of Catalan GDP (in the last years this deficit was estimated between 7%-9% of Catalan GDP), in 2010 Catalonia would place itself, if we consider EU-15 GDP per capita average=100, between values 108-112. If Catalan fiscal deficit reduction were equivalent to 3% of Catalan GDP, in 2010 Catalan GDP per capita would place itself between 120-130. Finally, if Catalan fiscal deficit reduction were equivalent to 5% of Catalan GDP, in 2010 Catalan GDP per capita would place itself between 135-150.

This bigger growth of Catalan economy, reached by through a reduction of Catalan fiscal deficit with the Spanish State, would mean that Catalonia belong to the most dynamic group of European regions, which are shown in table 9.

Table 9
Catalan GDP per capita. Year 2010

Yearly fiscal deficit reduction	***Without reduction***	***1%/GDP***	***3%/GDP***	***5%/GDP***
Catalan GDP per capita (PPS) (EU-15=100)	*97-101*	*108-112*	*120-130*	*135-150*
European Regions With similar indexes (year 2000)	*Rheinhald-Pfalz (97)* *Saarland (97)* *Bratislavsky (98)* *East Wales (98)* *Balears (98)* *Eastern Scotland (100)* *Basque Country (101)* *Umbria (101)*	*Liguria (108)* *East Anglia (109)* *Hampshire (109)* *Madrid (110)* *Nordrhein-Westfalen (109)* *Vlaams Brabant (112)*	*Piemonte (120)* *Praha (121)* *Baden-Württemberg (122)* *Valle d'Aosta (123)* *Groningen (124)* *Bayern (124)* *Antwerpen (125)* *Hessen (129)* *Emilia Romagna (129)*	*Lombardia (135)* *Trentino-AltoAdige(136)* *Utrecht (140)* *Bremen (143)* *Uusimaa (143)* *Stockholm (147)* *Darmstadt (149)*

Source: EUROSTAT and own calculation

5.- Conclusion

According to Eurostat Regional data, Catalan economy has blocked in the last years, while Madrid, Navarra and the Basque Country have converged vigorously with the EU Regional GDP per capita average (in 2000 these three Spanish Autonomous Communities mentioned before surpassed clearly Catalonia: see Table 2). As the main reason of this stagnancy we suggest Catalan fiscal deficit with the Spanish State, estimated in the last years between 7 and 9% of Catalan GDP. Fiscal deficit doesn't exist in Navarra and the Basque Country (because of their particularly financial system called *concierto económico,* that is equivalent an independent, self-sufficient administration) and it is significantly lower in Madrid, clearly the most dynamic Spanish region in last years (only 1-2% of Madrid yearly GDP). Because of these continually extraction of Catalan resources and wealth Catalonia is losing economic growth opportunities in the EU context, and according to our estimates this stagnancy will continue in the next years if Catalan fiscal deficit with Spanish State still remains. Catalonia only will converge with most dynamic EU regions if there is, in the next years, a significant reduction of the Catalan fiscal deficit mentioned above.

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